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GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER	
RUSSELL, WANDA Z	

ART UNIT	PAPER NUMBER
2416	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
pto@gbpatent.com

Office Action Summary	Application No.	Applicant(s)	
	10/690,015	BERTHAUD ET AL.	
	Examiner	Art Unit	
	WANDA Z. RUSSELL	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4 and 7-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *3* is/are allowed.

6)☒ Claim(s) *1,2,4 and 7-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101 (continue from last Office Action)

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 10-11, and 20-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter on the basis of nonfunctional descriptive material.

3. Claim 10 recites, "A computer program product…". **"A computer program product" is only disclosed in para. [0114] of the specification (see publication), but no explanation of it.** Thus, it is merely computer instructions per se. Thus, it is merely an abstract of idea, and thus non-statutory.

Thus claim is just a computer program code that processing the steps. This subject matter is not limited to that which falls within a statutory category of invention because it is not limited to a process, machine, manufacture, or a composition of matter. It does not fall within a statutory category since it is clearly not a series of steps or acts to constitute a process, not a mechanical device or combination of mechanical devices to constitute a machine, not a tangible physical article or object which is some form of matter to be a product and constitute a manufacture, and not a composition of two or more substances to constitute a composition of matter.

Claims 11 and 20-22 depend on claim 10, and have the same problem.

The examiner suggests a preamble as follows:

"A computer readable medium encoded with computer executable code to perform a method, the method comprising:"

Appropriate correction of both claims **and specification** is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-2, 4, 7-13, and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al. (U.S. Patent 7027449 B2), in view of Boys (Pub No. US 2002/0095474 A1).

For **claim 1**, Garcia-Luna-Aceves et al. teach a method for routing a datagram (see Fig. 2) in an IP network (IP, refer to col. 16, line 59), said method comprising the steps of:

a computer (Fig. 2 is a computer networks, see title) receiving a datagram with a destination network address (dest in 14 of Fig. 2, and flows from 16, 18 to 12 and 20 in Fig. 2);

a computer identifying a next hop router path en route to or associated with said destination network address (flows based on … destination, refer to col. 4, lines 19-20); and

a computer determining whether or not transmission of said datagram on a link to said next hop router would result in a bandwidth usage exceeding a bandwidth threshold (When a flow request of bandwidth ρ is made by an application at the source router i for destination j, the source router selects a valid path using the local link database along any shortest path from i to j that satisfies the bandwidth requirement, see col. 15, lines 56-60) associated with said next hop router (see Fig. 7; and When a router i receives a packet for router j it determines the next-hop k for this packet using a distributor to allocate packets to next-hops in proportion to their bandwidths, see col. 15, lines 36-37), and

if not, updating the bandwidth usage associated with said next hop router (If the signaling is successful, for each link (i,k) on the path, B.sub.j,k.sup.i and B.sub.j.sup.i are incremented with ρ, see col. 15, lines 61-63), and transmitting said datagram to said next hop router (see Fig. 7; and When a router i receives a packet for router j it determines the next-hop k for this packet using a distributor to allocate packets to next-hops in proportion to their bandwidths, see col. 15, lines 36-37),

if so, selecting among other possible next hop routers en route to or associated with said destination address, another next hop router for which transmission of said datagram on a link to said other next hop router would not result in a bandwidth usage exceeding a bandwidth threshold associated with said other next hop router, updating the bandwidth usage associated with said other next hop router (It then initiates hop-by-hop signaling to reserve resources along the selected path, see col. 15, lines 60-61), and transmitting said datagram to said other next hop router (see Fig. 7; and When a

router i receives a packet for router j it determines the next-hop k for this packet using a distributor to allocate packets to next-hops in proportion to their bandwidths, see col. 15, lines 36-37); and

a computer basing a routing decision on the bandwidth usage of the link to said next hop router,

wherein the bandwidth usage is a dynamic parameter which is updated in a forwarding information database (FIB) in real-time (routing table, see col. 15, lines 34-37).

However, Garcia-Luna-Aceves et al. fail to specifically teach a computer basing a routing decision on a bandwidth usage as billed by an ISP on the links to said next hop routers.

Boys teaches a computer basing a routing decision on a bandwidth usage as billed by an ISP on the links to said next hop routers (QoS elements that would be prioritized in this embodiment include such factors as: available bandwidth provided as a current estimation compared to current bandwidth through a users current ISP provider, history factors such as bandwidth stability over time generic to user-installed ISP services, and known telephony and network equipment characteristics related to various ISP entities, see [0078], last 7 lines).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Garcia-Luna-Aceves et al. with Boys to obtain the invention as specified, to allow the software application would monitor quality elements of the current server as well as quality elements of available servers in

anticipation of switching the user to a higher quality ISP when appropriate (see [0078], lines 24-27).

For **claim 2**, Garcia-Luna-Aceves et al. and Boys teach everything claimed as applied above. In addition, Garcia-Luna-Aceves et al. teach the method as set forth in claim 1, wherein the step of selecting comprises the steps of:

if, among said other possible next hop routers, there is no other next hop router for which the transmission of the datagram on the respective link would result in the bandwidth usage being less than the respective bandwidth threshold, choosing among said other possible next hop routers, another next hop router, updating the bandwidth threshold associated with said other, chosen next hop router with a larger, predefined bandwidth threshold (It then initiates hop-by-hop signaling to reserve resources along the selected path, see col. 15, lines 60-61), and

transmitting the datagram to said other, chosen next hop router (see Fig. 7; and When a router i receives a packet for router j it determines the next-hop k for this packet using a distributor to allocate packets to next-hops in proportion to their bandwidths, see col. 15, lines 36-37).

For **claim 4**, Garcia-Luna-Aceves et al. and Boys teach everything claimed as applied above. In addition, Garcia-Luna-Aceves et al. teach the method as set forth in claim 1 wherein the step of updating the bandwidth usage associated with the first said next hop router, comprises the step of updating in a table, the current bandwidth usage with the estimated bandwidth usage (routing table, see col. 15, lines 34-37).

For **claim 7**, Garcia-Luna-Aceves et al. and Boys teach everything claimed as applied above. In addition, Garcia-Luna-Aceves et al. teach the method as set forth in claim 2 , wherein the step of choosing among said other possible next hop routers, comprises the step of choosing among said other possible next hop routers, a next hop router according to a shortest path algorithm (shortest path, refer to col. 8, line 43, and It then initiates hop-by-hop signaling to reserve resources along the selected path, see col. 15, lines 60-61).

For **claim 8**, Garcia-Luna-Aceves et al. and Boys teach everything claimed as applied above. In addition, Garcia-Luna-Aceves et al. teach the method as set forth in claim 1, wherein a bandwidth usage of a link to said next hop router is based on other datagrams that have been transmitted on said link within a time period prior to a current time (see Fig. 6 for neighbors).

For **claim 9 and 12**, they are means claims (router in Fig. 2) corresponding to method claim 1 and 2 respectively, therefore they are rejected for the same reason above.

For **claim 10 and 11**, they are computer program product (see Figs. 3, 8, and 10) claims corresponding to method claim 1 and 2 respectively, therefore they are rejected for the same reason above.

For **claim 13**, Garcia-Luna-Aceves et al. and Boys teach everything claimed as applied above. In addition, Garcia-Luna-Aceves et al. teach the method as set forth in claim 1, further comprising sending an IP datagram with an updated header to a selected next hop router (IP header, refer to col. 16, lines 56-59) and defining a current

bandwidth for billing as an increasing function (bandwidth usage which is reflected in a higher call-acceptance rate, refer to col. 18, lines 1-3).

For **claim 17**, it is corresponding to claim 13, therefore it is rejected for the same reason above.

6. **Claims 14, 16, 19, 20, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al. (Pub No. US 7027449 B2), in view of Boys (Pub No. US 2002/0095474 A1) and Klinker et al (U.S. Patent 7,133,365 B2).

For **claim 14**, Garcia-Luna-Aceves et al. and Boys teach everything claimed as applied above. However, that fail to specifically teach the method as set forth in claim 1, further comprising, at a beginning of a billing period, defining a current bandwidth threshold equal to a lowest value in a list of bandwidth thresholds.

Klinker et al. teach the method as set forth in claim 1, further comprising, at a beginning of a billing period, defining a current bandwidth threshold equal to a lowest value in a list of bandwidth thresholds (billing period ... minimum bandwidth commitment ... a utilization ... threshold, refer to col. 20, lines 27-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Garcia-Luna-Aceves et al. with Boys and Klinker et al. to obtain the invention as specified, for providing usage and billing information.

For **claim 16**, Garcia-Luna-Aceves et al. and Boys teach everything claimed as applied above. However, they fail to specifically teach the method as set forth in claim 1, further comprising, for each link to a next hop router, utilizing a current bandwidth for

billing, a list of bandwidth thresholds, a current bandwidth threshold, and a billing period to route traffic.

Klinker et al. teach the method as set forth in claim 1, further comprising, for each link to a next hop router (NSP 1 to NSP n in Fig. 2), utilizing a current bandwidth for billing (next-hop ... billing ... circuit bandwidth for calculating the utilization, refer to col. 20, lines 26-29), a list of bandwidth thresholds (several absolute thresholds, refer to col. 24, line 13), a current bandwidth threshold (utilization alarm threshold, refer to col. 20, line 31), and a billing period to route traffic (billing period, refer to col. 20, line 27).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Garcia-Luna-Aceves et al. with Boys and Klinker et al. to obtain the invention as specified, for providing usage and billing information.

For **claim 19**, it is corresponding to claim 16, therefore it is rejected for the same reason above.

For **claims 20 and 22**, they are corresponding to claims 14, and 16 respectively, therefore they are rejected for the same reason above.

7. **Claims 15, 18, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al. (Pub No. US 7027449 B2), in view of Boys, Klinker et al (U.S. Patent 7,133,365 B2), and Chwastyk (U.S. Patent 3,783,258).

For **claim 15**, Garcia -Luna-Aceves et al. and Boys teach everything claimed as applied above. In addition, Garcia-Luna-Aceves et al. teach to emit a next, a list of bandwidth thresholds (selects a valid path using the local link database along any

shortest path from i to j that satisfies the bandwidth requirement, see col. 15, lines 56-60), a current bandwidth threshold (bandwidth ρ, refer to col. 15, line 56).

However, they fail to specifically teach a billing period in the FIB.

Klinker et al teach a billing period in the FIB (billing period, refer to col. 20, line 27 & lines 21-32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Garcia-Luna-Aceves et al. with Boys and Klinker et al. to obtain the invention as specified, for providing usage and billing information.

Further, Garcia-Luna-Aceves et al. in view of Boys and Klinker et al fail to teach adding a minimum time to emit.

Chwastyk teaches adding a minimum time to emit a next datagram (minimum time between data sets ..., refer to col. 5, line 15).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Garcia-Luna-Aceves et al. with Boys, Klinker et al., and Chwastyk to obtain the invention as specified, for providing minimum time between data sets.

For **claims 18 and 21**, they are corresponding to claim 15, therefore they are rejected for the same reason above.

Response to Amendment

8. Applicant's amendment, filed on 3/30/2009, has been received and considered.

Allowable Subject Matter

9. Claim 3 is allowed. Refer back to Office Action mailed on 12/29/2008 for original information.

Response to Arguments

10. Applicant's arguments, filed 3/30/2009 have been fully considered but are not persuasive.

11. For claim 1, Applicant argues that Garcia merely discussed how a source router can select a valid path that satisfies the bandwidth requirement. This is not the same as determining

whether or not transmission of the datagram on a link to the next hop router would result in a bandwidth usage exceeding a bandwidth threshold associated with said next hop router. The Examiner points to col. 15, lines 24-37 of GARCIA as teaching that the routing decision is based on the bandwidth usage of the link to the next hop router. Applicant disagrees. The noted language merely discusses how a routing table is used to determine the next hop router. The noted, however, says nothing with regard to a routing decision being based on the bandwidth usage of the link to said next hop router.

In response, the Examiner respectfully disagrees.

Garcia clearly stated that the set of next-hop choices at i that give the shortest distance to j ... Because there can be more than one next-hop at a router for packet forwarding, bandwidth for each of the next-hops must be specified ... allocate packets to next-hops in proportion to their bandwidths, see col. 15, lines 23-37.

The amended element is moot in view of the new ground(s) of rejection.

12. Other independent claims have the same issues as discussed above.

13. Rejections of dependent claims remain effective. See details above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WANDA Z. RUSSELL whose telephone number is (571)270-1796. The examiner can normally be reached on Monday-Thursday 9:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/
Supervisory Patent Examiner, Art Unit 2416

/Wanda Z Russell/
Examiner, Art Unit 2416